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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Rama Akella

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08/02/2006

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EXAMINER

KAM, CHIH MIN

ART UNIT

PAPER NUMBER

1656

DATE MAILED: 08/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/027,015	Applicant(s) AKELLA ET AL.	
	Examiner Chih-Min Kam	Art Unit 1656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 20-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,5,6 and 34-40 is/are allowed.
- 6) ☒ Claim(s) 2,4 and 20-33 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/25/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Status of the Claims***

1. Claims 1-6 and 20-40 are pending.

Applicants' amendment and response filed May 25, 2006 is acknowledged. Applicants' response has been fully considered. Claims 2-6, 20-23, 26-34 and 37-39 have been amended. Therefore, claims 1-6 and 20-40 are examined.

### **Withdrawn Informalities**

2. The previous objection to the specification, regarding the sequence of GGIGD at page 9 line 17, is withdrawn in view of applicant's amendment to the specification and applicant's response at page 7 in the amendment filed May 25, 2006.

### **Withdrawn Claim Objections**

3. The previous objection to claims 6, 23, 26, 29, 34, 22 and 33, is withdrawn in view of applicant's amendment to the claim, and applicant's response at pages 7-8 of the amendment filed May 25, 2006.

### **Withdrawn Claim Rejections - 35 USC § 112**

4. The previous rejection of claims 2-6 and 20-40 under 35 U. S. C. 112, first paragraph, written description, regarding a peptide including the sequence GGIGDGG, is withdrawn in view of applicant's amendment to the claim, and applicant's response at page 8 of the amendment filed May 25, 2006.
5. The previous rejection of claims 22 and 33 under 35 U. S. C. 112, first paragraph, written description, is withdrawn in view of applicant's amendment to the claim, and applicant's response at pages 8-9 of the amendment filed May 25, 2006.

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6. The previous rejection of claims 4, 27 and 28 under 35 U. S. C. 112, second paragraph, is withdrawn in view of applicant's amendment to the claim, and applicant's response at page 9 of the amendment filed May 25, 2006.

***New Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 2, 4, 20-29 and 31-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 2, 4, 20-29 and 31-33 are directed to an angiogenic composition comprising the isolated peptide sequence of GGIGDGG (SEQ ID NO:2) and at least one angiogenic peptide other than the peptide of SEQ ID NO:2 (claims 2, 4 and 20-28); or a composition that is active for promoting cell migration and/or angiogenesis under cell growth promoting conditions, the composition comprising the isolated peptide sequence of GGIGDGG (SEQ ID NO:2) and a matrix material, where the composition further comprises at least one angiogenic peptide (claims 29 and 31-33). While the specification discloses an angiogenic composition comprising at least one of the peptides of SEQ ID NO:1-6 and Formula 1 (ZZIGDZZ, Z is any of the twenty amino acids), and at least one angiogenic growth factor such as BDAP, BMP, VEGF, bFGF, angiogenin, EGF, PDGF, TGF- $\alpha$ , TGF- $\beta$  and TNF- $\alpha$  (page 4, lines 24-32), it does not disclose

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any angiogenic peptide comprising BDAPs, VEGF, nor identify any peptide having angiogenic activity and comprising the amino acid sequence of SEQ ID NO:1 and 3-6 except for the sequence of SEQ ID NO:1 or 2. The specification only discloses the sequence of SEQ ID NO:1 and 2 exhibiting angiogenic activity (Examples 1-3), it does not describe a genus of variants for angiogenic peptides or proteins (with different length or sequence) comprising BDAPs, VEGF or the sequence of SEQ ID NO:1 and 3-6. A single species of the peptide of BDAP, VEGF or the sequence of SEQ ID NO:1, 3-5 or 6 does not provide written description for a genus of peptides comprising BDAP, VEGF or the sequence of SEQ ID NO:1, 3-5 or 6. Without guidance on the structure to function/activity relationship for various peptides or proteins comprising BDAPs, VEGF or the sequence of SEQ ID NO:1 and 3-6, one skilled in the art would not know which peptide or protein is functional. The lack of description on the structure to function/activity relationship of the peptides or proteins comprising BDAPs, VEGF or the sequence of SEQ ID NO:1 and 3-6 and the lack of representative species as encompassed by the claims, applicants have failed to sufficiently describe the claimed invention, in such full, clear, concise terms that a skilled artisan would not recognize applicants were in possession of the claimed invention.

***New Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 29-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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9. Claim 29 recites the limitation "said at least one peptide" in line 2. There is insufficient antecedent basis for this limitation in the claim, claim 5 only recites the isolated peptide of SEQ ID NO:2. Claims 30-33 are included in this rejection for being dependent on a rejected claim and not correcting the deficiency of the claim from which they depend.

#### ***Claim Objections***

10. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

11. Claims 2, 4 and 20-33 are rejected; and claim 3 is objected to. It appears that claims 1, 5, 6 and 34-40 are free of art.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Min Kam whose telephone number is (571) 272-0948. The examiner can normally be reached on 8.00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen Kerr can be reached at 571-272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chih-Min Kam, Ph. D.  
Primary Patent Examiner

 primary **CHIH-MIN KAM  
PATENT EXAMINER**

CMK

July 28, 2006